

## Claims

### 1. (Canceled)

2. (Currently amended) A substantially purified salivary *Lu. longipalpis* polypeptide ~~The polypeptide of claim 1,~~ wherein the polypeptide comprises:

a) an amino acid sequence at least ~~80%~~<sup>95%</sup> identical to an amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67;

b) a conservative variant of the amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67;

c) an immunogenic fragment comprising at least eight consecutive amino acids of the amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67, that specifically binds to an antibody that specifically binds the amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67, respectively; or

d) the amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67, and wherein administration of the polypeptide to a subject produces an immune response to *Lu. longipalpis*.

3. (Canceled)

4. (Currently amended) A substantially purified salivary ~~The~~ *Lu. longipalpis* polypeptide of claim 2, wherein the polypeptide comprises an amino acid sequence as set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67, and wherein administration of the polypeptide to a subject produces an immune response to *Lu. longipalpis*.

5. (Previously presented) An antigenic fragment of the polypeptide of claim 4.

6. (Currently amended) The polypeptide of claim [[1]]2, wherein the polypeptide comprises an amino acid sequence at least ~~80%~~95% identical to the amino acid sequence set forth as SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 35, SEQ ID NO: 41, SEQ ID NO: 43, SEQ ID NO: 45, SEQ ID NO: 47, SEQ ID NO: 49, SEQ ID NO: 51, SEQ ID NO: 53, SEQ ID NO: 55, SEQ ID NO: 59, SEQ ID NO: 61, SEQ ID NO: 63, SEQ ID NO: 65, or SEQ ID NO: 67.

7-18. (Canceled)

19. (Withdrawn and currently amended) An antibody that specifically binds the polypeptide of claim [[1]]2.

20. (Withdrawn) The antibody of claim 19, wherein the antibody is a monoclonal antibody.

21. (Withdrawn) The antibody of claim 20, comprising a detectable label.

23. (Currently amended) A pharmaceutical composition comprising the polypeptide of claim [[1]]2 and a pharmaceutically acceptable carrier.

24. (Canceled)

25. (Withdrawn) A method for inducing an immune response to a *Lu. longipalpis* polypeptide in a subject, comprising:

administering to the subject a therapeutically effective amount of the polypeptide of claim 2 or a polynucleotide encoding the polypeptide thereby inducing the immune response to the *Lu. longipalpis* polypeptide in a subject.

26. (Withdrawn) The method of claim 25, wherein the immune response is a T cell response or a B cell response.

27. (Canceled)

28. (Withdrawn) The method of claim 25, wherein the subject is a non-human veterinary subject.

29. (Withdrawn) The method of claim 25, wherein the subject is a dog.

30. (Withdrawn) The method of claim 25, wherein the subject is a human.

31. (Withdrawn) A method for inhibiting a symptom of a *Leishmania* infection or preventing a *Leishmania* infection in a subject, comprising administering to the subject a therapeutically effective amount of the polypeptide of claim 2 or a polynucleotide encoding the polypeptide thereby inhibiting the symptom of the *Leishmania* infection or preventing the *Leishmania* infection.

32-33. (Canceled)

34-38. (Canceled)

39. (New) The polypeptide of claim 6, wherein the polypeptide comprises an amino acid sequence at least 98% identical to an amino acid sequence set forth as SEQ ID NO: 15.

40. (New) The polypeptide of claim 39, wherein the polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 15.

41. (New) The polypeptide of claim 40, wherein the polypeptide consists of the amino acid sequence set forth as SEQ ID NO: 15.

42. (New) The polypeptide of claim 4, wherein the polypeptide consists of an amino acid sequence set forth as SEQ ID NO: 15.

43. (New) A pharmaceutical composition comprising a therapeutically effective amount of the polypeptide of claim 4 and a pharmaceutically acceptable carrier.

44. (New) A method for inducing an immune response to a *Lu. longipalpis* polypeptide in a subject, comprising

administering to the subject a therapeutically effective amount of the *Lu. longipalpis* polypeptide of claim 4, or a polynucleotide encoding the *Lu. longipalpis* polypeptide, thereby inducing the immune response.

45. (New) The method of claim 44, wherein the immune response comprises a T cell response.

46. (New) The method of claim 44, wherein the immune response comprises a B cell response.

47. (New) The method of claim 44, wherein the subject comprises a non-human veterinary subject.

48. (New) The method of claim 44, wherein the subject is a dog.

49. (New) The method of claim 44, wherein the subject is a human.

50. (New) A method for inhibiting a symptom of a *Leishmania* infection or preventing a *Leishmania* infection in a subject, comprising administering to the subject a therapeutically effective amount of the *Lu. longipalpis* polypeptide of claim 4, or a polynucleotide encoding the *Lu. longipalpis* polypeptide, thereby inhibiting the symptom of the *Leishmania* infection or preventing the *Leishmania* infection.

51. (New) The method of claim 50, wherein the polypeptide comprises an amino acid sequence at least 95% identical to a the amino acid sequence set forth as SEQ ID NO: 15.